APPARATUS AND METHOD FOR CREATING AND MANAGING A FINANCIAL INSTRUMENT

Reference to Related Applications

This application is related to U.S. Provisional Application Serial No. 60/181,718, filed February 11, 2000 in the name of Gerard P. Sullivan, entitled "APPARATUS AND METHOD FOR CREATING AND MANAGING A FINANCIAL INSTRUMENT", and incorporated herein by reference.

BACKGROUND OF THE INVENTION

Equity mutual funds of all shapes and sizes tend to have one thing in common. Greater than 95% of equity mutual funds are managed by an individual Portfolio Manager or Investment Committee and would be considered "actively" managed. The remaining majority of funds would be considered "passively" managed index funds. An index fund uses the same representative portfolio as the published index it seeks to replicate. The majority of equity indexes that are published are weighted by market capitalization (the market price of a stock times shares outstanding). Market capitalization weighted indexes differ only by their universe selection. By gate-keeping an index universe, committees responsible for an index exclude certain component equities from their sample to maintain a predetermined portfolio characteristic of price/earnings ratio and price to book ratio. Our invention, The Industry Leaders Strategy Model was developed to generate portfolios based on the same universe, but using different ingredients to determine the weightings. Our process creates portfolios that have different portfolio statistics that are determined by the weighting factor and not a predetermined outcome. We developed a unique methodology for weighting portfolios by different fundamental inputs.

There are a small number of proprietary "model" based mutual funds that because of their secretive nature are as variegated as the actively managed funds. This invention has the same goal as these proprietary models (to be differentiated from actively managed funds by association to a discipline), yet this invention attempts to use a rigid and unique methodology to achieve the creation of understandably allocated portfolios.

Summary of the Invention

It is an object of this invention to provide a method for the creation of portfolios of equity securities that does not require active management.

It is an object of this invention to provide a method of investment allocation based upon the data elements of the securities included within the investment portfolio.

In accordance with these and other objects of this invention, there is disclosed a method of allocating a portfolio investment among a population of securities held in an investment portfolio, wherein each security of the population of securities is issued by a company of a plurality of companies, and each security has at least one corresponding data element. The method includes the steps of assigning each security to a corresponding industry group, summing one of the corresponding data elements of each of the securities assigned to said corresponding industry group to provide an industry total for the corresponding industry group, and summing the industry total for each of the plurality of industry groups to provide the portfolio investment. Finally, a one investment portion of the portfolio investment is distributed to at least one or more of the plurality of industry groups.

In a further aspect of this invention, at least some of the population of securities is updated on a periodic cycle. Further, the plurality of securities are subdivided into a plurality of editions, wherein each edition is updated on a cycle that is staggered from the cycles of the other editions.

In a still further feature of this invention, the investment portion of the corresponding industry group is equal to a proportion of the industry total of the corresponding industry group to the portfolio investment. Further, the investment portion is distributed among a selected one or more of the securities of the corresponding industry group. In one embodiment of this invention, the investment portion is distributed to at least that security of the corresponding industry group that has the largest data element of the securities assigned to the corresponding industry group. In a further embodiment, two or more parts of the investment portion are allocated to two or more of the securities of the corresponding industry group that have the largest data elements.

In a still further aspect of the invention, the part of the investment portion allocated to a single security is set to not exceed a predetermined amount.

Brief Description of the Drawings

Figure 1 illustrates how the universe of equities is determined for all applications of this invention. There are common exclusions to the chosen universes that are predetermined. Figure 1 builds a frame broken down by industry that includes all companies to be aggregated by the invention.

Figure 2 illustrates how different data elements are used to create a universe aggregation that generates the portfolio allocation for a given industry. As different data elements are intruded into the process, different investment allocations by industry are created.

Figures 3-8 illustrate how an industry is represented by a unique set of leaders. This process has 6 steps of iteration available per industry. A fixed monthly allocation is created for each company that represents its industry.

Figure 9 illustrates the model mechanics in an algebraic expression.

Figure 10 illustrates an example of this invention's portfolio for the data element of common shareholders equity.

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Detailed Description of the Invention.

The following example describes an illustrative embodiment of this invention with common shareholders equity as a selected data element input. Each application of the invention (using different data element inputs) creates a different investment strategy.

This illustrative embodiment produces a principal investment strategy that invests in a broad number of industries and companies with the highest common stockholders' equity in their respective industries and produces a portfolio of approximately 95 to 110 companies that can be systematically managed to replicate the specified investment allocations.

Referring now to Figure 1, there is shown data that is brought into the data processing system of this invention. Utilizing a public, published universe of equities, we sort the

equities into their primary industries and prepare the system to incorporate data. Imported data can be incorporated from any known source including, among others. ~~Standard & Poors Compustat®~~ STANDARD & POORS COMPUSTAT®, ~~The Value Line Investment Survey®~~ THE VALUE LINE INVESTMENT SURVEY® and ~~Bloomberg®~~ BLOOMBERG. For this illustrative embodiment of the data processing system, we have chosen to illustrate our data processing system using the ~~Value Line Investment Survey®~~ VALUE LINE INVESTMENT SURVEY® ("~~Value Line~~" VALUE LINE®) found in step 2. ~~Value line~~ VALUE LINE® lists approximately the 1,700 of the largest publicly traded companies and classifies each company into an industry category, and is a good source to provide the contents of industries and representative companies for the previous 14 years. This established a fluid universe of equities to which we apply the data processing system. Step 4 sorts the industries and companies within each industry and formats them in a way that allows the data processing system to allow the universe to be refined.

To differentiate portfolios into international or domestic the invention using step 6 may exclude any population of equities or industries that an investment manager may choose in order to create a desired portfolio. Step 8 embodies an example of exclusions that are used for this illustration. The invention excludes from this illustrative example companies that are in the following foreign industries: Canadian Banks, Canadian Energy, Foreign Electronics/Entertainment and Foreign Telecommunications. ~~Value Line~~ VALUE LINE® publishes some data on investment companies which are excluded (closed-end domestic, foreign models, and income funds). We exclude from the universe companies whose shares are not directly traded in the United States (*e.g.*, American Depository Receipts, commonly referred to as "ADRs"). Finally, the present system excludes from the universe companies included in ~~Value Line~~ VALUE LINE® as "miscellaneous" but which have not yet been assigned an Industry category because the invention does not assign industry categorization. The portfolio created from steps 6 and 8 will include domestic multinational corporations, but a smaller number of foreign companies, which do not have the same data reporting requirements as domestic corporations.

Step 10 uses the universe "update cycle" to determine how often changes are made to a given industry. An update cycle is the frequency to which the universe is modified by the publisher. Value Line changes their industry compositions every 3 months (1 quarter) and the cycle is set to 1 quarter. ~~Standard and Poors~~ STANDARD and POORS® and ~~Bloomberg~~ BLOOMBERG® have different update cycles so step 10 would be different for these universes. In establishing this example universe of

stocks, the invention also adjusts the Industry category of "Banks" to include "Banks Midwest" so as to unify the banking Industry analysis. Step 12 sorts the companies into the editions (weekly updates, numbering 13) found in Value Line which allows for an organized presentation of data from this data processing system. Step 14 highlights the update cycle found in the universe and this illustrative example describes the weekly update found in Value Line's quarterly update cycle. Industries and companies are included in this invention only for the periods during which they are published in the chosen universe by step 12.

Figure 2 illustrates how a chosen data element is incorporated into the refined universe found in step 12. The invention has the ability to use any published data element for a public corporation. A data element is an input to which the data processing system is applied. Step 22 illustrates potential data elements such as market capitalization and net income, but is not a complete list of potential data inputs. Each data element that is applied to the invention produces a different investment style and therefore a different portfolio. Publicly available data is acquired, for example, electronically from the EDGAR database of the SEC for fundamental data elements like common shareholders equity, net income, net revenue, net earnings and total assets. A market data source such as Bloomberg is used to provide market capitalization data. The illustrative embodiment presented here uses common shareholders equity to produce a "Large Capitalized Value Styled Portfolio." Step 24 acquires the chosen data element and imports the data into this data processing system.

Step 26 totals the data elements for all companies included in an industry for each month and step 28 totals the data elements for the selected universe. Finally, step 30 allocates an industry investment, which is calculated from the industry total divided by the universe total as determined in step 28. This investment allocation is created on a systematic basis, e.g., monthly, and is denoted by variable 1_n.

There are many ways to assign an investment allocation to an individual equity and create a unique portfolio. With the industry previously defined and a data element chosen, the individual investment allocation process can use one of 2 allocation options. An investment manager may choose to maintain a portfolio with a manageable number of equities (less than 200), or he can choose to have all industry members represented by their prominence with regard to the total industry amount (individual percent of data element with

regard to the specific industry). The first method is illustrated in figures 3 through 8 and the second method is illustrated in figure 11.

Insert A2 The size of the industry's investment allocation determines how many representatives are used. Therefore to create a portfolio, the data processing system applies a redundant iteration for each included industry of the defined universe. In choosing this allocation method, the investment manager would determine the maximum limit for the portfolio. Figure 3 through 8 illustrate the individual allocation limit ~~using a value of 2.25~~ to any one security is 2.25 %. The example of 2.25% would limit an individual equity's portfolio representation to 2.25% of the total portfolio. By definition, the company with the largest data element for the given month would receive all of the industry's allocation determined by step 30.

As shown in figure 3, the process looks to determine the size of the industry in step 40. When the industry's allocation amount is below the 2.25% value, the process continues to step 44. If the industry is larger than 2.25% step 42 directs then the process ~~would skip~~ to step 60. To determine the way a statistical tie would be broken, the data processing system allows for a significance test between the company with the largest data element and the next largest company. Step 44 illustrates a 2% value to determine if a statistical tie would be present and if so step 48 would split the allocation between the first 2 representatives of the industry. Step 46 would be used if no defined statistical tie is present, and the largest representative would be allocated the entire amount of the industry allocation. Step 50 takes the next industry back to step 40.

Figure 4, step 60 would capture industries greater than or equal to 2.25% and less than 4.5%. If the industry is greater than 4.5% the test in step ~~60~~ 62 would send the process to step 80, as more fully shown in figure 5. Step 64 tests the significance of the leader by the previously defined 2.0%, and if there is no tie the data processing system goes to step 66 and the leader is assigned 2.25% and the next closest company is assigned (I_n - 2.25%). Step 68 would split the total amount of the industry between the two largest companies in the industry if the 2% significance test is failed and a tie is determined. Step 70 takes the next industry back to step 40.

Figure 5, step 80 captures industries greater than or equal to 4.5% and less than 6.75% of the total portfolio allocation. If the industry is greater than 6.75%, step 80 would send the process to step 82 and be forwarded to step 120. Step 84 tests the significance of the leader (F_1) by the previously defined 2.0%. If there is no tie and the 2% significance test is passed, the data processing system goes to step 86 and the leader (F_1) is assigned 2.25% and forwarded to step 88 for the 2% significance test between the second (F_2) and third (F_3) largest companies. Step 90 has the second company (F_2) clearing the 2% significance test and gaining the 2.25% limit. Step 92 tests for the 2% significance test between the third (F_3) and fourth (F_4) largest companies. Step 94 captures a 2% significance test tie and would split the remaining amount of the industry (I_n - 4.5%) between (F_3) and (F_4) and forwarded to step 108 and forwarded back to step 40. Step 96 assigns 2.25% to (F_3) if the significance test in step 92 is passed and F_3 gained the remaining amount of the industry (I_n - 4.5%). Step 98 captures a tie of the step 84 significance test, and assigns F_1 and F_2 2.25%. Step 100 is a significance test with step 102 having the third leader F_3 capturing the remaining balance of the industry (I_n - 4.5%). From step 102 the data processing system forwards to step 108 and to be sent back to step 40. Step 104 represents a tie between F_3 and F_4 and allocates a split of the remaining balance of the industry (I_n - 4.5%) and forwarded to step 108.

Figure 6, step 120 captures industries greater than or equal to 6.75% and less than 9.0% of the total portfolio allocation. If the industry is greater than 9.0%, step 120 would send the process to step 122 and be forwarded to step 160. Step 124 tests the significance of the leader (F_1) by the previously defined 2.0%. If there is no tie and the 2% significance test is passed, the data processing system goes to step 126 and the leader (F_1) is assigned 2.25% and forwarded to step 128 for the 2% significance test between the second (F_2) and third (F_3) largest companies. Step 130 has the second company (F_2) clearing the 2% significance test and gaining the 2.25% limit and forwarded to step 132 and on to step 138. Step 134 assigns the tie between F_2 and F_3 2.25%, and forwarded to step 142. Step 136 captures the tie between F_1 and F_2 and assigns a value of 2.25%, and forwards to step 138. Step 138 tests for the 2% significance test between the third (F_3) and fourth (F_4) largest companies. Step 148 captures a 2% significance test tie and would split the remaining amount of the industry (I_n - 4.5%) between (F_3) and (F_4) and forwarded to step 150 and forwarded back to step 40. Step

140 assigns 2.25% to (F_3) if the significance test in step 138 is passed. Step 142 is a significance test with step 144 having the fourth leader F_4 being assigned the remaining balance of the industry (I_n - 6.75%). From step 144 the data processing system forwards to step 150 to be sent back to step 40. Step 146 represents a tie between F_4 and F_5 and allocates a split of the remaining balance of the industry (I_n - 6.75%) and forwarded to step 150.

Figure 7, step 160 captures industries greater than or equal to 9.0% and less than 11.25% of the total portfolio allocation. If the industry is greater than 11.25% ,step 160 would send the process to step 162 and be forwarded to step 200. Step 164 tests the significance of the leader (F_1) by the previously defined 2.0%. If there is no tie and the 2% significance test is passed, the data processing system goes to step 166 and the leader (F_1) is assigned 2.25% and forwarded to step 168 for the 2% significance test between the second (F_2) and third (F_3) largest companies. Step 170 has the second company (F_2) clearing the 2% significance test and gaining the 2.25% limit and forwarded to step 172 and on to step 178. Step 174 assigns the tie between F_2 and F_3 2.25%, and forwarded to step ~~142~~ 182. Step ~~136~~ 176 captures the tie between F_1 and F_2 and assigns a value of 2.25%, and forwards to step ~~182~~ 178. Step 178 tests for the 2% significance test between the third (F_3) and fourth (F_4) largest companies. Step 192 captures a 2% significance test tie and would assign 2.25% to both (F_3) and (F_4) and forwarded to step 194. Step 180 assigns 2.25% to (F_3 if the significance test in step 178 is passed. Step 182 is a significance test with step 184 having the fourth leader F_4 being assigned 2.25%. From step 184 the data processing system forwards to step 186 to apply the significance test to F_5 and F_6. Step 190 represents a tie between F_5 and F_6, and allocates a split of the remaining balance of the industry (I_n - 9.0%) and forwarded to step 198. Step 188 captures a clearance of the significance test and assigns F_5 the balance of the industry allocation (I_n - 9.0%). Step 198 takes the process back to step 40.

Figure 8, step 200 captures industries greater than or equal to 11.25% and less than 13.00% of the total portfolio allocation. If the industry is greater than 13.00%, step 202 would assign a limit on 13% to the industry and be returned back to step 200 with I_n = 13.00% (this size limit is included in this illustrative embodiment, but may be removed for other applications), Step 204 tests the significance of the leader (F_1) by the previously defined 2.0%. If there is no tie and the 2% significance test is passed, the data processing

system goes to step 206 and the leader (F_1) is assigned 2.25% and forwarded to step 208 for the 2% significance test between the second (F_2) and third (F_3) largest companies. Step 210 has the second company (F_2) clearing the 2% significance test and gaining the 2.25% limit and forwarded to step 212 and on to step 218. Step 214 assigns the tie between F_2 and F_3 2.25%, and forwarded to step 226. Step 216 captures the tie between F_1 and F_2 and assigns a value of 2.25% to each company, and forwards to step 218. Step 218 tests for the 2% significance test between the third (F_3) and fourth (F_4) largest companies. Step 222 captures a 2% significance test tie and would assign 2.25% to both (F_3) and (F_4) and forwarded to step 224 and be forwarded to step 234. Step 220 assigns 2.25% to (F_3) if the significance test in step 218 is passed. Step 226 is a significance test between F_4 and F_5 with step 232 having the fourth leader F_4 clearing the significance test and being assigned 2.25%. Step 228 assigns F_4 and F_5 2.25% and is forwarded to step 230 and on to step 238. Step 234 applies the significance test to F_5 and F_6. Step 244 represents a tie between F_5 and F_6, and allocates a split of the remaining balance of the industry (I_n - 9.0%) and forwarded to step 246. Step 236 captures a clearance of the significance test of step 234 and assigns F_5 2.25% and forwards the process to step 238 for a significance test between F_6 and F_7. If F_6 clears the significance test of step 238, it is assigned the balance of the industry (I_n - 11.25%) and sent go step 240 in step 246. Step 242 allocates the step 238 significance tie to F_6 and F_7 with a split of the remaining balance (I_n - 11. 15%). Step ~~198~~ 246 takes the process back to step 40.

Figure 9 illustrates an algorithmic example of the illustrative embodiment, with an algorithmic example of the industries of the embodiment found in figure 10. When the data processing system is run, the following ~~results~~ allocations of the illustrative embodiment ~~were found~~ 45.

Figure 11 illustrates the simple process of assigning each company of the chosen universe. If the more detailed portfolio is chosen by the investment manager, the data processing system would assign in step 300 the individual company's relative percent to the entire universe. Step 302 would include all members of the defined universe, and a large portfolio would be created.

HISTORICAL PERFORMANCE OF THE INVENTION
(using the illustrative embodiment)

The following table compares the actual performance of the ~~Standard and Poor's Barra Value Index~~® ("S&P Barra Value") and the ~~Russell 1000 Value Index~~® ("Russell 1000 Value"), with the hypothetical results of the illustrative embodiment of the invention (common shareholders equity) for various historical periods. Total returns of the Strategy Model are returns on a hypothetical portfolio whose results have been approved by the SEC that are included in a Prospectus for a mutual fund composed of stocks selected by the Strategy Model (common shareholders equity) and re-balanced monthly.

The S&P Barra Value and the Russell 1000 Value are indexes that have -no costs or expenses of operation, however, its total return amounts reflect reinvestment of dividends for purposes of general comparison to this invention.

Comparative Historical Total Return Performance of this Invention

Please note that past results of this embodiment do not necessarily indicate future performance or earnings of the invention

Period	Industry Leaders Strategy	S&P Barra Value Index®	Russell 1000 Value Index®
1 year			
12/31/98-12/31/99	10.89%	12.69%	7.66%
3 years			
12/31/96-12/31/99	22.33%	18.87%	18.94%
5 years			
12/31/94-12/31/99	26.34%	22.93%	23.15%
10 years			
12/31/99-12/31/99	17.26%	15.36%	15/63%
13 Years			

12/31/86-12/31/99	16.94%	15.90%	15.87%

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